

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT



SUBSURFACE INVESTIGATION

STATE JOB NO. 061450

FEDERAL AID PROJECT NO. STPE-ENHN(480)

ARKANSAS TOURIST INFORMATION CENTER (SOCIAL HILL) (S)

STATE HIGHWAY 30 SECTION 21

IN HOT SPRING COUNTY

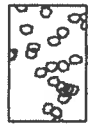
LETTING OF FEBRUARY 10, 2016

The information contained herein was obtained by the Department for design and estimating purposes only. It is being furnished with the express understanding that said information does not constitute a part of the Proposal or Contract and represents only the best knowledge of the Department as to the location, character and depth of the materials encountered. The information is only included and made available so that bidders may have access to subsurface information obtained by the Department and is not intended to be a substitute for personal investigation, interpretation and judgment of the bidder. The bidder should be cognizant of the possibility that conditions affecting the cost and/or quantities of work to be performed may differ from those indicated herein.

LEGEND

SOIL TYPES

(SHOWN IN SYMBOL COLUMN)
(PREDOMINANT TYPE SHOWN HEAVY)



GRAVEL



SAND



SILT



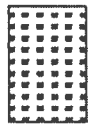
CLAY



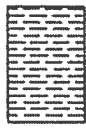
ORGANIC
MATTER

ROCK TYPES

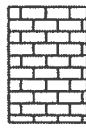
(SHOWN IN SYMBOL COLUMN)



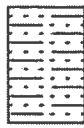
SANDSTONE



SHALE
or
SILTSTONE



LIMESTONE
or
DOLOMITE



ALTERNATING
LAYERS of
SHALE and
SANDSTONE



OTHER

SAMPLER TYPES

(SHOWN IN SAMPLE COLUMN)

SHELBY TUBE



UNDISTURBED
SAMPLE
RECOVERY



DISTURBED
SAMPLE
RECOVERY



NO
RECOVERY

SPLIT SPOON



SAMPLE
RECOVERY



NO
RECOVERY

ROCK CORING



% RECOVERY
INDICATED ON LOGS

TERMS DESCRIBING CONSISTENCY OR CONDITION

GRANULAR SOIL		CLAY		CLAY-SHALE		SHALE	
*N ^o Value	Density	*N ^o Value	Consistency	*N ^o Value	Consistency	*N ^o Value	Consistency
0-4	Very Loose	0-1	Very Soft	0-1	Very Soft		
5-10	Loose	2-4	Soft	2-4	Soft	31-60	Soft
11-30	Medium Dense	5-8	Medium Stiff	5-8	Medium Stiff	Over 60	
31-50	Dense	9-15	Stiff	9-15	Stiff	More than 2'	
Over 50	Very Dense	16-30	Very Stiff	16-30	Very Stiff	Penetration	
		31-60	Hard	31-60	Hard	In 60 Blows:	Medium Hard
		Over 60	Very Hard	Over 60	Very Hard	Less than 2'	
						Penetration	
						In 60 Blows:	Hard

1. Ground water elevations indicated on boring logs represent ground water elevations at date or time shown on boring log. Absence of water surface implies that no ground water data is available but does not necessarily mean that ground water will not be encountered at locations or within the vertical reaches of these borings.
2. Borings represent subsurface conditions at their respective locations for their respective depths. Variations in conditions between or adjacent to boring locations may be encountered.
3. Terms used for describing soils according to their texture or grain size distribution are in accordance with the Unified Soil Classification System.

Standard Penetration Test – Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. It is customary to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and performing the test are recorded for each 6 inches of penetration on the drill log. The field "N" Value (N_f) can be obtained by adding the bottom two numbers for example: $\frac{6}{8-9} \Rightarrow 8+9 = 17 \text{ blows/ft}$. The "N" Value corrected to 60% efficiency (N_{60}) can be obtained by multiplying N_f by the hammer correction factor published on the boring log.

**ARKANSAS HWY. & TRANS. DEPARTMENT
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 5
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JOB NO. 061450 Hot Spring County
JOB NAME: Arkansas Tourist Information Center (Social Hill)
I-30

DATE: March 18, 2015
TYPE OF DRILLING: Hollow Stem Auger

STATION:
LOCATION:
LOGGED BY: Raymond Taylor

EQUIPMENT: CME 45 w/ CME Automatic
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 20

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R O D
			SURFACE ELEVATION: 344.1									
			Moist, Very Stiff, Mottled Reddish Brown and Gray Sandy Clay with Gravel (Quartz Fragments) and some Organic Matter (Grassroots)							9 14-11		
			Moist, Stiff, Mottled Reddish Brown and Gray Clay with Sand and some Gravel (Quartz Fragments)							4 4-8		
5			Moist, Stiff, Mottled Reddish Brown and Gray Clay with Gravel (Quartz Fragments)							5 5-7		
			Moist, Stiff, Mottled Reddish Brown and Gray Clay with some Gravel (Quartz Fragments)							3 4-7		
10			Moist, Hard, Mottled Reddish Brown and Gray Clay with Gravel (Quartz Fragments)							4 7-8		
			Moist, Hard, Mottled Reddish Brown and Gray Clay with Sand and Gravel (Quartz Fragments)							15 21-23		
15			Moist, Very Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							11 25-30		
			Moist, Medium Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							13 28-36		
20			Boring Terminated							12 15-14		
										9 9-18		
25												
30												
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 6
PAGE 1 OF 1

JOB NO. 061450 Hot Spring County
JOB NAME: Arkansas Tourist Information Center (Social Hill)
I-30
STATION:
LOCATION:
LOGGED BY: Raymond Taylor

DATE: March 17, 2015
TYPE OF DRILLING: Hollow Stem Auger
EQUIPMENT: CME 45 w/ CME Automatic
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 20

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R O D
			SURFACE ELEVATION: 348.9									
		X	Moist, Stiff, Mottled Reddish Brown and Gray Clay with some Organic Matter (Grassroots)							3 3-3		
5		X	Moist, Very Stiff, Mottled Reddish Brown and Gray Clay with Gravel (Quartz Fragments)							5 7-9		
10		X	Moist, Hard, Mottled Reddish Brown and Gray Clay with Sand and Gravel (Quartz Fragments)							9 23-30		
		X	Moist, Medium Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							18 22-14		
15		X	Moist, Very Dense to Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							5 6-10		
		X	Moist, Very Dense to Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							6 25-38		
		X	Moist, Very Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							15 19-21		
20		X	Wet, Very Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							16 23-31		
			Boring Terminated							24 36-35		
25												
30												
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 7
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JOB NO. 061450 Hot Spring County
JOB NAME: Arkansas Tourist Information Center (Social Hill)
I-30

DATE: March 17, 2015
TYPE OF DRILLING: Hollow Stem Auger

STATION:
LOCATION:
LOGGED BY: Raymond Taylor

EQUIPMENT: CME 45 w/ CME Automatic
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 20

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R O D
			SURFACE ELEVATION: 349.0									
			Moist, Medium Stiff, Mottled Reddish Brown and Gray Clay with some Organic Matter (Grassroots)							1 3-5		
5			Moist, Very Stiff, Mottled Reddish Brown and Gray Clay with Gravel (Quartz Fragments)							8 7-9		
10			Moist, Hard to Very Hard, Mottled Reddish Brown and Gray Clay with Sand and Gravel (Quartz Fragments)							13 22-38 16 24-43		
			Moist, Very Stiff, Mottled Reddish Brown and Gray Clay with Sand							5 7-11		
15			Moist, Dense, Mottled Reddish Brown and Gray Sand with Clay							5 8-23		
			Moist, Very Dense to Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							17 27-32 16 17-15		
20										12 17-19		
			Boring Terminated									
25												
30												
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 8
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JOB NO. 061450 Hot Spring County
JOB NAME: Arkansas Tourist Information Center (Social Hill)
I-30
STATION:
LOCATION:
LOGGED BY: Raymond Taylor

DATE: March 18, 2015
TYPE OF DRILLING: Hollow Stem Auger
EQUIPMENT: CME 45 w/ CME Automatic
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 20

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R O D
			SURFACE ELEVATION: 343.7									
			Moist, Medium Stiff, Mottled Reddish Brown and Gray Clay with some Organic Matter (Grassroots)							7		
5			Moist, Very Stiff, Mottled Reddish Brown and Gray Clay with Gravel (Quartz Fragments)							8 11-14		
			Moist, Very Stiff, Mottled Reddish Brown and Gray Clay with some Gravel (Quartz Fragments)							6 12-15		
10			Moist, Hard, Mottled Reddish Brown and Gray Clay with Sand and Gravel (Quartz Fragments)							7 16-27		
										13 28-34		
15			Moist, Very Dense to Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							14 19-29		
										13 25-24		
20			Wet, Medium Dense, Mottled Reddish Brown and Gray Sand with Clay and Gravel (Quartz Fragments)							8 8-10		
										2 7-10		
			Boring Terminated									
25												
30												
35												

REMARKS: